

**Chapter 37 Circulatory and Respiratory Systems****Section 37-1 The Circulatory System (pages 943-950)****Key Concepts**

- What are the structures of the circulatory system?
- What are the three types of blood vessels in the circulatory system?

**Functions of the Circulatory System (page 943)**

1. Why do large organisms require a circulatory system? \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_
2. What is a closed circulatory system? \_\_\_\_\_  
 \_\_\_\_\_
3. List the three components of the circulatory system.  
 a. \_\_\_\_\_ b. \_\_\_\_\_ c. \_\_\_\_\_

**The Heart (pages 944-946)**

4. Is the following sentence true or false? The heart is composed almost entirely of muscle.  
 \_\_\_\_\_

*Match each heart structure with its description.*

Structure	Description
_____ 5. pericardium	a. Thick layer of muscle in the walls of the heart
_____ 6. myocardium	b. Sac of tissue that encloses and protects the heart
_____ 7. atrium	c. Upper chamber of the heart
_____ 8. ventricle	d. Lower chamber of the heart

9. Dividing the right side of the heart from the left side is a wall called a(an) \_\_\_\_\_.
10. Is the following sentence true or false? The heart functions as four separate pumps. \_\_\_\_\_
11. Complete the table about the circulatory system.

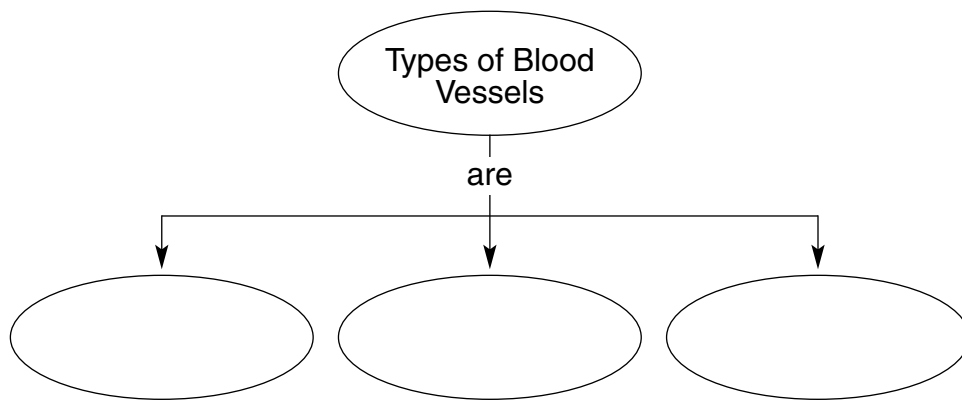
**THE CIRCULATORY SYSTEM**

Name of Circulatory Pathway	Side of Heart Involved	Route Blood Follows
Pulmonary circulation		From heart to lungs
	Left side	

12. What happens to blood when it reaches the lungs? \_\_\_\_\_  
\_\_\_\_\_
13. Why is the blood that enters the heart from the systemic circulation oxygen-poor?  
\_\_\_\_\_  
\_\_\_\_\_
14. Circle the letter of each sentence that is true about blood flow through the heart.
- a. Blood enters the heart through the right and left atria.
  - b. Blood enters the heart through the right and left ventricles.
  - c. Blood flows from the ventricles to the atria.
  - d. Blood flows out of the heart through the right and left atria.
15. Flaps of connective tissue called \_\_\_\_\_ prevent blood from flowing backward in the heart.
16. Each heart contraction begins in a small group of cardiac muscle cells called the \_\_\_\_\_ node.
17. Cells that “set the pace” for the beating of the heart as a whole are also called the \_\_\_\_\_.

### **Blood Vessels (pages 946–947)**

18. Complete the concept map.



19. Circle the letter of each sentence that is true about arteries.
- a. Most carry oxygen-poor blood.
  - b. They can expand under pressure.
  - c. They have thin walls.
  - d. The largest is the aorta.
20. The smallest blood vessels found in the body are the \_\_\_\_\_.
21. What work is done in the capillaries? \_\_\_\_\_  
\_\_\_\_\_
22. What keeps blood flowing toward the heart in the largest veins? \_\_\_\_\_

## Blood Pressure (pages 948–949)

23. The force of blood on the walls of arteries is known as \_\_\_\_\_.
24. Is the following sentence true or false? Blood pressure increases when the heart relaxes.  
\_\_\_\_\_

*Match each type of blood pressure with the force it measures.*

Type of Pressure	Force It Measures
_____ 25. systolic	a. Force of the blood when the ventricles relax
_____ 26. diastolic	b. Force of the blood when the ventricles contract

27. A typical blood pressure reading for a healthy person is \_\_\_\_\_.
28. How does the autonomic nervous system regulate blood pressure?  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

29. How do the kidneys regulate blood pressure? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## Diseases of the Circulatory System (pages 949–950)

30. A condition in which fatty deposits build up on the walls of arteries is called \_\_\_\_\_.
31. High blood pressure also is called \_\_\_\_\_.
32. Is the following sentence true or false? High blood pressure increases the risk of heart attack and stroke. \_\_\_\_\_
33. Circle the letter of each sentence that is true about heart attack.
- a. It is caused by atherosclerosis in the coronary arteries.
  - b. It occurs when part of the heart muscle begins to die.
  - c. Its symptoms include nausea and chest pain.
  - d. It requires immediate medical attention.
34. Is the following sentence true or false? A stroke may be caused by a clot in a blood vessel leading to the brain. \_\_\_\_\_
35. List three ways of avoiding cardiovascular diseases.
- a. \_\_\_\_\_
  - b. \_\_\_\_\_
  - c. \_\_\_\_\_